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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/384,456	02/02/1995	BENGT Y. PERSSON	4015-5054	9408
24112	7590	07/18/2006	EXAMINER	
COATS & BENNETT, PLLC P O BOX 5 RALEIGH, NC 27602			VUONG, QUOCHIE B	
			ART UNIT	PAPER NUMBER
			2618	

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

08/384,456

Applicant(s)

PERSSON ET AL.

Examiner

Quochien B. Vuong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 102 and 109-125 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 102, 109-111, 115-117 and 122-124 is/are rejected.
- 7) ☒ Claim(s) 112-114, 118-121, and 125 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 102, 109, 111, 115, 117, and 122-124 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilhousen (US 5,101,501) in view of Schmidt (US 4,765,753).

As to claim 102, Gilhousen discloses a method of mobile-assisted handover in a wireless network comprising communicating with a mobile station from a first base station (see column 2 lines 58-64); receiving, at a network controller, one or more data messages sent from said mobile station to said first base station (column 4 lines 27-53;

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see also column 2, lines 62-66 which discloses that the mobile station does not need to switch frequencies when handoff of the call; therefore, the first and second base station uses the same frequency as claimed); determining, by said network controller, to handover said mobile station from said first base station to said second base station based on said message (see column 4 lines 27-68, column 5 lines 1-11); and handing over said mobile station from said first base station to said second base station based on said determination by said network controller (see column 4 line 54 to column 5 line 11). Gilhousen does not specifically disclose the message indicating relative signal strengths of at least a second base station operating on a same frequency as said first base station. However, Schmidt discloses a method for mobile assisted handoff wherein the mobile station sends a message to the first base station indicating relative signal strengths of at least a second base station operating on a same frequency as the first base station (see column 5, line 19 – column 6, line 14). Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to adapt the teaching of sending a message from the mobile station to the first base station indicating relative signal strengths of at least a second base station operating on a same frequency as the first base station of Schmidt to the method of Gilhousen so that the handoff performance can be distributed between the mobile station, base station, and network controller.

As to claim 109, Gilhousen discloses handing over said mobile station comprises a same frequency soft handover from said first base station to said second base station (see column 3 lines 19-28).

As to claim 111, Gilhousen discloses temporarily transmitting data to said mobile station from said first base station using a first CDMA spreading code, and simultaneously transmitting the same data to said mobile station from said second base station using a second CDMA spreading code for diversity transmission to said mobile station (in this case, a same PN spreading code with different code phase offsets as disclosed at column 3 lines 50-61 read on first CDMA spreading code and second CDMA spreading code as claimed).

As to claim 115, Gilhousen discloses that handing over said mobile station comprises establishing communications with said mobile station from said second base station while retaining control of said mobile station at said first base station, and transferring control of said mobile station to said second base station after said establishing communications with said mobile station from said second base station (see column 4 line 54 to column 5 line 11).

As to claim 117, Gilhousen discloses that transferring control includes forming power control commands for transmission to said mobile station at said first base station prior to transferring control of said mobile station, and forming power control commands for transmission to said mobile station at said second base station after transferring control of said mobile station, wherein said power control commands control a transmit power of said mobile station (see column 9 lines 19-30; column 11 lines 8-22).

As to claim 122, Gilhousen discloses retaining an existing connection for said mobile station at said first base station while establishing a new connection for said mobile station at said second base station, and ending said existing connection at said

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first base station after determining that said new connection at said second base station is established (see column 4 line 54 to column 5 line 11).

As to claim 123, Gilhousen discloses continuing to transmit traffic and control signals to said mobile station from said first base station and continuing to receive traffic and control signals from said mobile station at said first base station (see column 4, line 54 - column 5, line 11).

As to claim 124, Gilhousen discloses continuing to send power control commands to said mobile station from said first base station to continue controlling a transmit power of said mobile station from said first base station at least until said new connection is established at said second base station (see column 4, line 54 - column 5, line 11; column 9, lines 19-30; and column 11, lines 8-22).

4. Claim 110 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gilhousen in view of Schmidt and further in view of Farwell (5,184,347).

As to claim 110, Gilhousen and Schmidt fail to disclose a different frequency hard handover as claimed. Farwell discloses a different frequency hard handover in a CDMA system (see column 41 line 64 to column 42 line 68). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Farwell to Gilhousen and Schmidt, so that the call would not be interrupted when the mobile station moves to a second base station which operates on at least one different frequency (as suggested by Farwell).

5. Claim 116 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gilhousen in view of Schmidt and further in view of Hietala (5,150,075).

As to claim 116, Gilhousen does disclose handing over said mobile station further comprises ending communications with said mobile station from said first base station after said establishing communications with said mobile station from said second base station as claimed (see column 4 line 54 to column 5 line 11). However, Gilhousen and Schmidt fail to disclose ending communications with said mobile station from said first base station by ramping down a transmit signal for said mobile station to a low power level, wherein said ramping down is controlled to reduce disturbances to any other mobile stations communicating with said first base station as claimed. Hietala discloses ramping down a transmit signal to a low power level, wherein ramping down is controlled to reduce disturbances to any other mobile stations (see column 1 lines 59-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Hietala to Gilhousen and Schmidt, in order to reduce disturbances to any other mobile stations (as suggested by Hietala at column 1 lines 59-65).

***Allowable Subject Matter***

6. Claims 112-114, 118-121, and 125 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 112, Gilhousen and Schmidt disclose the method of claim 102 above. However, Gilhousen and Schmidt fail to teach that the mobile station communicates with said first base station using a first CDMA spreading code before and during handover, and wherein said mobile station communicates with said second base station using a second CDMA spreading code during and after handover, and further comprising sending a control message from said first base station to said mobile station that identifies said second CDMA spreading code to support handover of said mobile station.

Regarding claim 118, Gilhousen and Schmidt disclose the method of claim 115 above. However, Gilhousen and Schmidt fail to teach that establishing communications with said mobile station from said second base station comprises: beginning transmissions from said second base station to said mobile station; signaling said mobile station from said first base station to begin receiving said transmissions from said second base station; receiving signaling from said mobile station at said first base station indicating a received signal strength of transmissions from said second base station; and signaling said mobile station from said first base station to begin transmitting to said second base station and to begin responding to control signaling from said second base station after determining that said mobile station is receiving transmissions from said second base station at a sufficient signal strength.

Regarding claim 125, Gilhousen and Schmidt disclose the method of claim 122 above. However, Gilhousen and Schmidt fail to teach that establishing a new connection for said mobile station at said second base station comprises beginning



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transmissions from said second base station, transmitting a command from said first base station to said mobile station directing said mobile station to begin receiving said transmissions from said second base station, receiving signal strength reports from said mobile station at said first base station indicating a signal strength of said transmissions from said second base station, and transferring control of said mobile station to said second base station after said signal strength of said transmissions is sufficient.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 102, 109-125 have been considered but are moot in view of the new ground(s) of rejection.

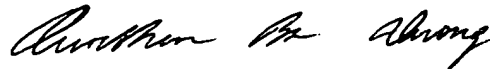
### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quochien B. Vuong whose telephone number is (571) 272-7902. The examiner can normally be reached on M-F 9:30-18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**QUOCHIE B. VUONG**  
**PRIMARY EXAMINER**

Quochien B. Vuong  
July 08, 2006.